

## DOCUMENT RESUME

ED 362 310

PS 021 763

AUTHOR Papatheodorou, Theodora; Ramasut, Arlene  
TITLE The Effects of Nursery School Environment on Teachers' Perceptions of Children's Behavioural Difficulties.  
PUB DATE Sep 93  
NOTE 34p.; Paper presented at the European Conference on the Quality of Early Childhood Education (3rd, Kriopigi, Greece, September 1-3, 1993).  
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)  
EDRS PRICE MF01/PC02 Plus Postage.  
DESCRIPTORS Academic Achievement; Class Size; \*Environmental Influences; Foreign Countries; \*Geographic Location; \*Nursery Schools; Preschool Education; Preschool Teachers; Rural Urban Differences; \*Social Cognition; \*Student Behavior; \*Teacher Attitudes  
IDENTIFIERS \*Greece

## ABSTRACT

This study examined teachers' perceptions of the nature and extent of behavior problems exhibited by children in nursery classes. A total of 154 teachers from public and private schools in rural, small town, and urban areas in Greece completed a self-reporting questionnaire and an evaluation of their students' behavior. The results showed differences in the overall prevalence rate of behavior problems in relation to geographic region and population density. Children in cities were perceived as exhibiting more problems than children in small towns, while rural children were perceived as exhibiting more behavior problems than urban or small town children. Children in larger classes were perceived by their teachers to have more conduct problems than children in smaller classes. Teachers reported that afternoon nursery classes presented more than twice as many behavior problems than morning sessions. These findings generally support the view that environment, both of the immediate classroom and the wider community, plays an important role in teachers' perceptions of children's behavior. An appendix provides sample questions from the teacher questionnaire. Contains 55 references. (MDM)

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THE EFFECTS OF NURSERY SCHOOL ENVIRONMENT ON TEACHERS'  
PERCEPTIONS OF CHILDREN'S BEHAVIOURAL DIFFICULTIES

BY

THEODORA PAPATHEODOROU

ARLENE RAMASUT

(SCHOOL OF EDUCATION  
UWCC  
42, PARK PLACE  
CARDIFF CF1 3BB)

PAPER FOR PRESENTATION

IN

THE "THIRD EUROPEAN CONFERENCE  
ON THE QUALITY OF EARLY CHILDHOOD EDUCATION"

KRIOPIGI, GREECE

1-3 SEPTEMBER 1993

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## ABSTRACT

Teachers' perceptions of the nature and extent of behaviour problems exhibited by children in nursery classes in Greece, were investigated. A questionnaire was constructed and distributed to 225 nursery teachers in three distinct geographic regions and in a variety of locations, with a 68.4 per cent response rate.

The results showed differences in the overall prevalence rate of behaviour problems in relation to geographic region and the location of the nursery school (city, town, rural area). Social and cultural adversity within the community and the geographic region were found to play a part in affecting teachers' perceptions of children's emotional and developmentally related problems, but not conduct problems. The factor most closely associated with conduct problems related to the immediate environment of the nursery school, that is class size, with more conduct problems identified in classes of higher social density. Spatial density and indoor play equipment were not found to be significant factors. But, outdoor facilities were significant for developmentally related problems. Finally, more problems were identified by teachers in the afternoon sessions and in the playground, although these were not statistically significant. These findings support the view that environment both of the immediate classroom and the wider community plays an important role in teachers' perceptions of children's behaviour problems.

## INTRODUCTION

Since the 1970s, the work of Rutter and his colleagues (Rutter et al.1974, Rutter and Quinton.1977, Rutter and Carmezy.1983, Rutter.1983, Rutter.1985) and the work of Reynolds (Reynolds.1976, Reynolds.1982, Reynolds and Reid.1985, Ramasut and Reynolds.1993) have consistently shown that schools do make a difference to pupils' outcomes. Galloway and Goodwin (1987) have also observed that school factors influence pupils' behaviour as much as factors associated primarily with the pupil or the family.

The interpersonal climate and the organizational structure of the classroom were the focus of research until the 1960s and only in the 1970s did educators and researchers begin to consider that other dimensions of the physical environment might have influence on children's outcomes (Weinstein.1979, Pascal.1993). This perspective represents the focus of the present paper for, as Frangos (1984) states, the environment is one of the three major variables which affects behavioural outcomes. This is here interpreted to refer to teachers' behavioural outcomes as well as to pupils' behavioural outcomes in the school situation. The environment in which the teacher works will form part of "the private experience of the individual" (Rajecki.1990, p.5) and the context in which attitudes and perceptions are formed. As Rajecki (1990) states, attitudes can develop from single and multiple experiences, both direct and indirect, and can exert a direct and dynamic influence on behaviour. Phillips (1989), however, argues that our attitudes are influenced by what we believe our

experiences to be, not necessarily by the reality of the object of our attitudes. He states that:

Our view of people is filtered through the prism of our own wishes, desires, hopes and expectations. We see others' behaviours, and their apparent attitudes, through this refracting, psychological mechanism which has been constructed from the context of society in general and that part of it to which we perceive we belong: our sub-cultures. (p.20)

With regard to physical environment, Tsoukala (1992) points out that while a number of studies, based on the stimulus-respond model of the behaviourist school of psychology, confirm the opinion that the physical i.e. architectural environment has an effect on behaviour, the psychosocial and cultural variables have not been explored or explained. Germanos (1992a) states that the physical environment in which the individual lives and works, constitutes the material framework reflecting the socio-economic and cultural realities of society. Since teachers are part of society and have the task of integrating future generations into that society by the transmission of cultural norms (Langfeldt.1992), the ways in which they are affected by their environment, the attitudes which they hold, the way in which they perceive their pupils, that is their beliefs about them and expectations of them, will closely affect their behavioural outcomes.

The relationship between the geographical area, and especially the social status of the area, and the prevalence rate of children's behaviour problems has been a concern of many studies (Davie et al.1972, Chazan and Jackson.1971;1974,

Rutter et al.1974, Rutter.1983). Rutter (1983), reviewing a number of surveys which investigated behavioural differences in urban and rural areas, found that a wide range of disorders are substantially higher in the cities than in small towns and higher in both than in rural areas. On the other hand, Chazan and Jackson (1971) reported very few differences between the rural and urban children in South Wales. However, in their follow-up study, two years later, (Chazan and Jackson.1974) then found the differences between children from the urban and rural areas had increased, with the rural children found as presenting few really severe problems or multiple behaviour problems. The longitudinal study conducted by Davie et al (1972) of all children born in England and Wales in the first week of March 1958 revealed that factors such as child rearing practices, child temperament and community attitudes play an important role in the prevalence rate of identified behaviour problems.

In the Greek context, researchers have also investigated this factor and found that the "area of the school" and its cultural and socio-economic background affects pupils' outcome (Eliou 1978, Voros.1985, Tzani.1986, Nella and Nikolaou.1986, Miheli.1987-1988, Alimisi.1988). Tzani (1986) points out that differences in the cultural environment of the pupils represent the main reasons which maintain and reproduce the differences in outcome and, indeed, Nella and Nikolaou's (1986) findings have noted an association between cultural deprivation and special educational needs. According to Alimisi (1988), socio-economic deprivation leads to low educational

levels in general within the family and subsequently to the broader environment of the community. According to Eliou (1978) children, who live in remote agricultural areas or in deprived and densely populated urban areas, whose parents have low levels of education or low income are those who are socially and culturally deprived. This view is strongly supported by Katsikas (1993) who in a recent newspaper article, argues that there are children in present day Greece who are "defeated by an invisible mechanism which seems to perpetuate the social class structure and operates as an obstacle to educational success" (p.A50). Such children are those who are from remote villages, agricultural areas, deprived urban areas, from families with low and irregular income, from families whose the parents are uneducated or whose parents have returned from seeking employment abroad, refugees and gypsies. According to Katsikas, the disadvantage experienced by these children occurs throughout the educational system at every grade. It is, however, most evident at tertiary level, as shown in the study of Voros (1985), which demonstrates that whereas only 8.3 per cent of secondary school pupils of Evros (a remote and mainly agricultural area of Greece) had access to tertiary education, the figure for East Attica (a relatively prosperous area) was 52 per cent. Once again, the socio-economic status of the area can be seen to have considerable effects on educational opportunity. Voros (1985) further suggests that this status may also affect the quality of the schools. In addition Nikolopoulou and Oakland (1990) indicate that the availability of support services, such as school psychological services, are clearly linked to the socio-economic

status of the school and its location. Thus, it might be said that the factor "area of the school" (Miheli.1988), and the way it influences pupils' outcome represents a complex expression of the socio-economic background of the family and the community.

With regard to within-school factors, for almost a century great attention was given to class size and its affect on pupils' outcome (Burstall.1992). Rutter (1983), in a review of relevant studies in secondary schools, concluded that class size had no consistent association with pupils' success or outcome. On the other hand, Baker et al's (1985) findings showed that the larger classes appear to contain more problems and the smaller classes fewer problems. Finally, Smith and Connolly (1980) reported that in nursery school groups of varying size, children were involved in many different play activities, but aggressive behaviour did not vary with the class size. Teachers, however, said that they preferred classes of a medium size (15-25) rather than either extreme ( below 10 or over 30).

Another school factor which has attracted researchers' attention is that of classroom space or spatial density (Loo.1972, Aiello et al.1979, Smith and Connolly.1980, Burgess and Fordyce.1989). The findings, however, have not always been consistent. For example, Loo (1972) and Aiello et al (1979), reported less aggressive behaviour and social interaction in high density conditions, but, at the same time, Aiello et al (1979) found children to be frustrated, annoyed and to show signs of discomfort. On the other hand, Smith and Connolly (1980) reported no differences in the level of aggression, but they

found children in large spaces tended to increase such activities such as running, chasing and unusual use of the equipment. Furthermore, Burgess and Fordyce (1989) reported children in large areas as being more interactive, friendly and less troublesome. Finally, McGrew (1970) makes a distinction between social and spatial density, reporting that it is the social rather than the spatial density which affects children's behaviour.

Smith and Connolly (1980) also investigated the effects of the amount of play equipment in general on children's behaviour. They reported that an environment with relatively little play equipment was in some ways more stressful for children, as aggressive behaviour increased with crowding, owing to competition over equipment. Germanos's (1992b) observational study in Greece revealed that many nursery schools, especially those attached to a primary school, either lack or have a limited amount of outdoor play equipment. Even purpose built nursery schools, independent of the primary school, have only very basic equipment which tends to facilitate children's play activities as "users" rather than as "creators". This finding is further confirmed by the present researchers' findings (Ramasut and Papatheodorou, 1993) which show that less than 50 per cent of the teacher sample said that the outdoor facilities were either "Good" or "Very Good". The respective percentage for indoor equipment, however, was close to 70 per cent.

The effects of the attendance period, that is morning/afternoon sessions, on children's adjustment to nursery schools was the main concern in the recent Davies and Bremer

(1991) study. They found that, in general, morning attenders were better adjusted and less aggressive than afternoon attenders.

The findings of the studies reviewed so far are not always consistent and some have also been revealed to carry controversial views. However, they are indicative of the importance of the environment of the school on children's behaviour and development in general, and as Pascal (1993) points out, the environment is one of the (ten) crucial dimensions of the pre-school education which must be examined when evaluating the quality of that experience. Practitioners, as Clark (1979) points out, may have little or limited control on these aspects of pre-school education, but, it is important that they are sensitive to the implications of such aspects of the pre-school environment upon children and, we suggest, upon themselves as professionals.

#### METHODOLOGY

The instrument used (Appendix.A) was developed for the purpose of the present study, with items elicited from Greek nursery teachers. All the items suggested by the teachers were compared with items used by other researchers (e.g. Rutter.1967, Stott.1974, McGuire and Richman.1986). They were then sorted for overlap and ambiguity (see Papatheodorou.1990) and finally, classified by three independent judges and the researchers themselves (see Papatheodorou and Ramasut.1993) into the three broad types of behaviour problems, that is, conduct problems, emotional problems, developmentally related problems

used by other researchers (e.g. Quay.1972, Behar and Stringfield.1974, McGuire and Richman.1986b).

The questionnaire was distributed to 225 Greek nursery teachers. The method of selecting the teacher sample followed multi-stage, stratified and simple random sampling (Bartz.1981, Hannagan.1982, Borg and Gall. 1983). The Greek state was divided into two hypothetical regions, namely (1) the metropolitan region- that is Attica- and (2) the rest i.e provincial regions of the Greek state. From these, two (Evros and Dodecanisos) were selected as having similar size population but different socio-economic background. The criteria for judging the socio-economic status of the region was 'occupation' as suggested by Palios (1986)

1. Attica, the metropolitan region was chozen mainly because:

- i. it is the region with the biggest population density. More than the one third of the total Greek population of Greece (NSOG.1991) lives in the two biggest cities of Attica, namely Athens-the capital city- and Pireaus - its seaport.
- ii. The cities of Athens and Pireaus, due to their population density, also, provide a socio-economic diversity (Palios.1986, NSOG.1989).

2. In the provinces the two regions of Evros and Dodecanisos were selected to be included in the study:

- i. so that the possible diversity of socio-economic status of the provincial regions could be taken into account.
- ii. Both areas have an almost equal population (NSOG.1985), with Dodecanisos having a slightly larger population,

with a relatively higher standard of living. The majority (73.5 per cent) of the Evros population as a whole (both urban and rural) is working class, while, the majority (88 per cent) of the Dodecanisos population, again as a whole, is split almost equally into two classes, namely middle class and working class.

Furthermore, the location of the school (cities, small towns, rural areas) and the type of the school (private, public sector) were also taken into account. Nine sub-groups were thus identified in three selected regions (see Table.I). Twenty five teachers from each of the nine sub-groups (N=225) were randomly selected to take part in the study. The total pupil sample, from which prevalence rates were calculated, was 3091 (1568 boys, 1523 girls).

Teachers were asked to complete a questionnaire on two children in their class, whom they perceived as exhibiting behaviour problems, in order to examine the seriousness of the three types of behaviour problems. In total, 154 nursery teachers returned the questionnaire completed for 280 children. The overall response rate was 68.4 per cent.

## RESULTS- DISCUSSION

### 1. Prevalence rate of behaviour problems

#### i. Regional differences

Table II shows that the prevalence rate of behaviour problems in the metropolitan region was almost equal to the average prevalence rate of behaviour problems when the two

Table I: The distribution of teacher sample of the study (N=225).

| Regions<br>Schools                        | I. Metropolitan<br>region | II. Provinces                |                        |
|-------------------------------------------|---------------------------|------------------------------|------------------------|
|                                           | Attica<br>(sub-groups)*   | Dodecanisos<br>(sub-groups)* | Evros<br>(sub-groups)* |
| <u>Public in</u>                          |                           |                              |                        |
| Cities                                    | 3                         | -                            | -                      |
| Small towns                               | -                         | 1                            | 1                      |
| Rural areas                               | 1                         | 1                            | 1                      |
| <u>Private in</u>                         |                           |                              |                        |
| Cities                                    | 1                         | -                            | -                      |
| Small towns                               | -                         | -                            | -                      |
| Rural areas                               | -                         | -                            | -                      |
| Sub-groups drawn<br>from total of<br>LEAs | 5<br>(from 6 LEAs)        | 2<br>(from 3 LEAs)           | 2<br>(from 3 LEAs)     |

\* 25 teachers from each sub-group.

Table II: The prevalence rate of children's behaviour problems in the metropolitan region, in the provinces and in three different regions in Greece: (1) Attica (N:1684), (2) Dodecanisos (N:708) and (3) Evros (N:321).

| Regions<br>Gender | Metropolitan<br>region | Provinces                     |                    |              |
|-------------------|------------------------|-------------------------------|--------------------|--------------|
|                   | 1.Attica<br>%          | (Dodecanisos<br>& Evros)<br>% | 2.Dodecanisos<br>% | 3.Evros<br>% |
| Boys              | 11.6                   | 21.0                          | 11.4               | 30.7         |
| Girls             | 17.6                   | 8.8                           | 6.8                | 10.9         |
| Boys &<br>Girls   | 14.6                   | 14.9                          | 9.3                | 20.5         |

provincial regions are combined. However, comparing the three areas, namely Attica, Dodecanisos and Evros, the findings revealed that the actual prevalence rate of behaviour problems in Attica was higher than in Dodecanisos, but in Evros the prevalence rate was higher than in either Attica or Dodecanisos.

Differences in the prevalence rate of behaviour problems, between the areas, may reflect differences in child rearing practices, temperamental differences and community attitudes, as Davie et al (1972) have suggested, or may be explained in terms of school and family conditions in the areas, as proposed by Rutter and Quinton (1977) and Rutter and Garmezy (1983). In the present study, the findings show that nursery schools in the three areas operate under very similar conditions in terms of classroom space and play equipment. So, it seems that differences in the prevalence rate of perceived behaviour problems may not be seen as solely and exclusively resulting from great and distinctive variation in the immediate environment of the nursery schools, but seem to suggest that conditions pertaining to the social and economic status of the community are important contributory causes of behaviour problems and/or teachers' perceptions of those behaviours. Rutter and Quinton (1977) have found that adverse family conditions directly or indirectly affect children's behaviour. Given that Evros is a remote and deprived mainly rural area, and Attica a densely populated and overcrowded area, both may be said to be providing strenuous and stressful conditions, which, in turn, may have adverse effects on both children's and adults' behaviour. Thus,

while it may be argued that children in both Attica and Evros do have more behaviour problems than children in Dodecanisos, the present writers hypothesize that it may be that teachers themselves are affected by these conditions. It is suggested that the environment and in this case the adverse socio-economic conditions affect the way in which teachers perceive and interpret children's behaviours (Phillips.1989, Rajecki.1990) and that this is reflected in higher rates of identification of behaviour problems in general.

#### ii. Location of the nursery school

The importance of the social status of an area in influencing teachers' perceptions can be seen as further supported by the findings of the prevalence rate of behaviour problems in cities, small towns and rural areas. Table III shows that children in cities are perceived as exhibiting more problems than children in small towns, and children in rural areas are perceived as exhibiting more behaviour problems than children in both cities and small towns. The findings are not exclusively associated with urban areas, as in Chazan and Jackson's (1971;1974) and Rutter et al's (1974) studies, and cannot be explained in terms of the adversity related exclusively to urban areas, (Rutter and Quinton.1977; Rutter and Garmezy.1983), but adversity, in general, may be seen as the main underlying cause for teachers' perceptions of behaviour problems. In Greece, the population in rural areas, and especially in small and remote hamlets, often experiences a lack of facilities

Table III: The prevalence rate of children's behaviour problems in Cities (N:1363), Small towns (N:403), rural areas (947).

| Location<br>Gender | Cities | Sm.towns | Rural |
|--------------------|--------|----------|-------|
|                    | %      | %        | %     |
| Boys               | 15.4   | 11.7     | 22.3  |
| Girls              | 11.4   | 4.4      | 12.8  |
| Boys &<br>Girls    | 13.4   | 8.6      | 17.4  |

and difficulties in accessing services. This is also reflected in the conditions which teachers themselves face in such areas. Whilst it can be argued that inner city teachers also face high levels of adversity (Eliou.1978, Rutter and Garmezy.1983) leading to high levels of stress, the findings of this study, as those found by Nikolopoulou and Oakland (1990), suggest that the urban based teachers have access to increased and better facilities such as school psychological services than their rural colleagues. Teachers in small towns, however, would seem to benefit from the advantages of less adverse social conditions that pertain in the big cities and better access to services that are available in rural areas. Thus, differences in the prevalence rate of behaviour problems in the three areas may be seen as a function of the combination of levels of adversity in each area and levels of teachers' stress and as further confirming the view that the social circumstances, existing in an area, play a great role in children's actual behaviour and teachers' perceptions of that behaviour.

## 2. Levels of significance of factors related to teachers' perceptions of children's behaviour problems.

### 1. Region and location of the school

One-way analysis of variance revealed region and location of the school (Table.IV) to be insignificant factors in conduct problems, but significant for emotional problems (region:  $p < .001$ , location:  $p < .01$ ) and developmentally related problems (both

Table.IV: One-way analysis results for comparing (i) the region and (ii) the location of the nursery school with children's conduct problems, emotional problems and developmentally related problems (N:280).

i. Region (Attica, Dodecanisos, Evros)

| Type<br>of B.P.                       | df | F<br>ratio | p<br>value | significance |
|---------------------------------------|----|------------|------------|--------------|
| - Conduct<br>problems                 | 2  | 2.76       | .06        | NS           |
| - Emotional<br>problems               | 2  | 8.06       | .0004      | S            |
| - Developmentally<br>related problems | 2  | 7.18       | .0009      | S            |

ii. Location (Cities, Small towns, Rural areas)

| Type<br>of B.P.                       | df | F<br>ratio | p<br>value | significance |
|---------------------------------------|----|------------|------------|--------------|
| - Conduct<br>problems                 | 2  | 2.82       | .06        | NS           |
| - Emotional<br>problems               | 2  | 6.26       | .00        | S            |
| - Developmentally<br>related problems | 2  | 7.45       | .000       | S            |

region and location:  $p < .001$ ). Further multiple-range analysis (Student-Newman-Keuls Test) showed that it is children in the big cities of Attica and in the rural areas of Evros, who are perceived by teachers to be at risk especially for emotional and developmentally related problems.

However, the findings are not easily explained in the light of the adversity of either the region or the location of the school alone. If the high rate of emotional and developmentally related problems solely reflects the effect of adverse conditions on children's actual behaviour, then that should apply to conduct problems as well. In fact, teachers' agreement in relation to conduct problems in all three geographical areas and across all three locations does seem to indicate that this type of behaviour problem, which interferes with and affects the teaching/learning process, is unacceptable to all teachers in the classroom context. We conclude that nursery teachers in Greece, as those in Wheldall and Merrett's (1988) well-known British study have similar views of what constitutes a conduct problem and that they can clearly identify such behaviours even in the less formal environment of the preschool setting, wherever it is located. Thus, whilst lower levels of social adversity, such as found in the Dodecanisos region, appear to produce lower levels of identified emotional and developmentally related problems, this does not apply to conduct problems. Greek nursery teachers would seem to be affected by factors others than social adversity in their perceptions of conduct problems. Cultural norms and expectations, it is suggested, have an important role to play here (Langfeldt.1992).

#### 11. Class size and classroom space

One-way analysis results revealed the size of the class to be a significant factor in the identification of conduct problems ( $df=2$ ,  $F=3.70$ ,  $p=.02$ ), but not in emotional and developmentally related problems. A multiple-range test (Student-Newman-Keuls) shows that both nursery classes with "16 to 25 children" and classes with "over 25 children" had more conduct problems than classes with "up to 15 children". The findings are not consistent with Smith and Conolly's (1980) nursery school study, which reported no differences between the class size and children's aggressive behaviour. The differences between the two studies may be seen as a result of differences in methodology, since Smith and Conolly's (1980) observational study was more of an experimental nature. However, the findings are consistent with Baker et al's (1985) study, which was of a similar nature, and which showed that larger classes contained more problems than smaller classes. Furthermore, the significance of class size in relation only to conduct problems may be seen as further confirming the view that conduct problems are unacceptable in the classroom context, and especially in large classes where they may have a cumulative effect. Consistently with Smith and Conolly's findings, 98 per cent of the Greek nursery teachers in the study stated that they preferred class sizes of between 16-20 children.

In contrast to Loo's (1972) and Aiello et al's (1979) studies, but consistent with Smith and Conolly's (1980) findings, the present study reveals classroom space to be an

insignificant factor across all three types of behaviour problems, that is conduct problems, emotional problems and developmentally related problems. However, because of the design of the study, it was not possible to test Smith and Connolly's (1980) finding, which showed children in classrooms of different space to be involved in different types of activities, and Burgess and Fordyce's (1991) findings, which showed children in large areas to be more friendly, interactive and less troublesome.

### iii. Play equipment

Indoor play equipment was also revealed to be an insignificant factor across all three types of behaviour problems. This finding is contradictory to Smith and Connolly's (1980) pre-school study, which reported an environment with relatively little play equipment to be more stressful and producing more aggressive behaviour owing to competition for possession. Again, differences in the findings of the present study and the Smith and Connolly's (1980) study may mainly be seen as a result of methodology. The present study was not designed to examine the effects of a limited amount of play equipment in the classroom but rather to examine the effects of the existing equipment.

The outdoor facilities were also found to be an insignificant factor for conduct and emotional problems, but significant for developmentally related problems ( $df=2$ ,  $F=3.58$ ,  $p=.02$ ). A Student-Newman-Keuls test revealed that it was the

"Very good" outdoor facilities which made the difference. Children in nursery classes with "very good" outdoor facilities were seen to present fewer developmentally related problems than children in nursery classes with "good" outdoor facilities. It would seem, as Germanos (1992b) points out, that it is the "very good" outdoor play equipment, which facilitates and helps children's development. It is worth noting that all the teachers in this survey expressed a need for the improvement of educational materials, both indoor and outdoor, to improve the quality of the nursery school experience of their pupils.

iv. Time and place in which observed the most behaviour problems.

When teachers were asked to indicate where they observed most behaviour problems (e.g. classroom, playground, in both classroom and playground) 39.4 per cent of them indicated the playground as the most troublesome place and only 15.3 per cent indicated the classroom. However, 35.2 per cent of teachers said that both classroom and playground were equally troublesome places. One-way analysis revealed no significant differences across all three types of behaviour problems.

Furthermore, when teachers were asked to indicate in which attendance period (that is morning session, afternoon session, both morning and afternoon sessions) they observed the most behaviour problems, 36.2 per cent of them indicated, both morning and afternoon sessions as being the most troublesome. However, nearly double the percentage of teachers (63.8 per cent) said that afternoon sessions presented the most behaviour

problems. T-test analysis revealed no significant differences between attendance period and the three types of behaviour problems. Interestingly, when asked for preferred modifications to the present system, 98 per cent of the nursery teachers surveyed stated that nursery schools should operate only in the morning.

#### SUMMARY

Overall, the findings of this study seem to indicate that the school environment, both immediate and in the wider sense of community and region, does play a part in affecting teachers' perceptions of behaviour problems in general. However, social adversity within the community and the geographic region was found to be significant with regard to teachers' perceptions of emotional and developmentally related problems, although this was not the case for conduct problems. Here, similar levels of conduct problems were identified by the teachers in schools independently of locality and region suggesting that cultural norms and expectations played a role in the perception of these behaviours. The factor most closely associated with conduct problems related to the immediate environment of the nursery, that is class size with more problems identified in classes over 25 pupils across all locations and regions. Classroom space, however, was not found to be a significant factor, as may have been expected, but this finding agrees with McGrew's (1970) view that it is the social density rather than spacial density which affects children's behaviours. Furthermore, while indoor play

equipment was found to be an insignificant factor across all three types of behaviour problems, outdoor facilities were revealed as being a significant factor for developmentally related problems, supporting Germanos's (1992) view that nursery schools in Greece need improved outdoor facilities to help children's development and creativity. More problems were identified by teachers in the afternoon sessions and in the playground, although these were not statistically significant.

In conclusion, it can be said that the environment of pre-school is an important variable which should be taken into consideration when assessing children's behaviour and teachers' perception of and attitudes towards that behaviour. The environment itself affects the behavioural outcomes of both parties, both as individuals and their dynamic interaction in the pre-school context.

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# APPENDIX.A

## QUESTIONNAIRE OF BEHAVIOUR PROBLEMS

(part of the main questionnaire)

Does the child ever display any of these behaviours in school? If so, please underline the behaviour and indicate how serious you consider the problem to be. Please tick the appropriate column.

| Behaviour problems                                   | Seriousness  |         |                  |
|------------------------------------------------------|--------------|---------|------------------|
|                                                      | Very serious | serious | Not very serious |
| 1. Shows aggressive behaviour, unintentionally       | ( )          | ( )     | ( )              |
| 2. Behaves aggressively in order to hurt or distress | ( )          | ( )     | ( )              |
| 3. Is hyperactive/ hindering other children          | ( )          | ( )     | ( )              |
| 4. Has difficulties in cooperation                   | ( )          | ( )     | ( )              |
| 5. Shows negativeness                                | ( )          | ( )     | ( )              |
| 6. Shows evidence of being over-protected            | ( )          | ( )     | ( )              |
| 7. Shows withdrawn behaviour                         | ( )          | ( )     | ( )              |
| 8. Shows feelings of insecurity                      | ( )          | ( )     | ( )              |
| 9. Is attention seeking                              | ( )          | ( )     | ( )              |
| 10. Shows unhappiness/depression                     | ( )          | ( )     | ( )              |
| 11. Shows excessive shyness/timidity                 | ( )          | ( )     | ( )              |
| 12. Shows poor concentration/perseverance            | ( )          | ( )     | ( )              |
| 13. Showing-off behaviour                            | ( )          | ( )     | ( )              |
| 14. Shows provocative behaviour                      | ( )          | ( )     | ( )              |
| 15. Shows domineering behaviour                      | ( )          | ( )     | ( )              |
| 16. Lacks motor control/is clumsy                    | ( )          | ( )     | ( )              |
| 17. Is rejected by peers                             | ( )          | ( )     | ( )              |
| 18. Has communication problems                       | ( )          | ( )     | ( )              |

N.B. Conduct problems: items 1, 2, 3, 9, 13, 14, 15.

Emotional problems: items 7, 8, 10, 11, 17.

Developmentally related problems: items 4, 5, 6, 12, 16, 18.